



Massachusetts Department of Environmental Protection  
Bureau of Air & Waste

# **AQ 31 and Simplified AQ31 Optional Greenhouse Gas Emissions Reporting Forms for Retail Sellers of Electricity**

## **Instructions and Supporting Materials**

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### **Introduction**

MassDEP *Forms*, as well as *Instructions & Supporting Materials*, are available for download from the MassDEP Web site at <http://www.mass.gov/eea/agencies/massdep/> in two file formats: Microsoft Word™ and Adobe Acrobat PDF™. Either format allows documents to be printed.

*Instructions & Supporting Materials* files in Microsoft Word™ format contain a series of documents that provide guidance on how to prepare a submittal.

*Forms* in Microsoft Word™ format must be downloaded separately. Users with Microsoft Word™ 97 or later may complete these forms electronically.

Submittal packages in Adobe Acrobat PDF™ format combine *Forms* and *Instructions & Supporting Materials* in a single document. Adobe Acrobat PDF™ files may only be viewed and printed without alteration. *Forms* in this format may not be completed electronically.



# AQ 31 and Simplified AQ31 Optional Greenhouse Gas Emissions Reporting Forms for Retail Sellers of Electricity

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### 1. What is the purpose of this submittal?

The purpose of the optional Form AQ 31 is to allow retail sellers subject to MassDEP regulation 310 CMR 7.71(9) "Reporting Requirements for Retail Sellers of Electricity" to account annually for the ownership and/or use of particular generation sources in reporting greenhouse gas (GHG) emissions released in the course of generating the electricity they sell. Retail sellers choosing to account for the ownership and/or use of only non-emitting particular generation sources may submit the Simplified Form AQ31 (see question 10 below). A separate form, AQ 32 "Mandatory Greenhouse Gas Emissions Reporting Form for Retail Sellers of Electricity" will be posted for use in reporting annual GHG emissions. Form AQ 32 must be submitted by all retail sellers subject to MassDEP regulation 310 CMR 7.71(9), whether or not a Form AQ 31 is submitted.

### 2. Who must submit?

This submission is optional. Only retail sellers that wish to account for the ownership and/or use of particular generation sources in reporting GHG emissions need to submit this Form. "Retail Seller" means a competitive supplier licensed by the Department of Public Utilities or, as each is defined in Massachusetts General Law (MGL) chapter 164A §1, an electric utility, municipal electric department or municipal light board.

### 3. What is the overall process for retail sellers to determine their GHG emissions?

Emission factors (EFs) will be posted by the Department for public comment each year. Emission factors will reflect average emission rates before and after accounting for ownership and/or use of particular generation sources. After accounting for submittals of the optional Form AQ 31, and any other comments received on the draft EFs, final EFs will be posted.

Final EFs will be used by retail sellers in determining their annual GHG emissions to be reported on AQ 32 "Mandatory Greenhouse Gas Emissions Reporting Form for Retail Sellers of Electricity." Retail sellers will determine GHG emissions (in short tons) by:

- multiplying:
  - their electricity sales (in megawatt hours, MWh)(less any non-emitting and emitting generation sources submitted on optional Form AQ 31) by
  - final EFs (in pounds of GHG per megawatt hour, lb GHG/MWh) by
  - 1 short ton per 2000 pounds
- and adding the emissions of any particular generation sources submitted on optional Form AQ 31.

### 4. What are the submittal deadlines for Form AQ 31?

Retail sellers wishing to submit optional Form AQ 31 information on the ownership and/or use of particular generation sources must do so no later than the first day of July after the calendar year in which the MWh were generated.

### 5. How will this submittal be used?

Submittals of AQ 31 Optional Reporting Form for Retail Sellers of Electricity will be used for two purposes: to allow an individual retail seller to account for ownership and/or use of particular generation sources, and for the Department to modify the EFs used by retail sellers to determine their annual GHG emissions associated with MWh that are not reported on Form AQ 31.

Allowing individual retail sellers to make adjustments in their GHG reporting affects the EFs representing the remaining MWh consumed in Massachusetts. Specifically, once individual retail sellers "take credit" for MWh generated by particular generation sources, the draft EFs must be recalculated by the Department based on the emissions of the remaining MWh consumed in Massachusetts to ensure accuracy and avoid double



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counting. The final EFs to be used by retail sellers in determining annual GHG emissions will likely be higher than the draft EFs. This outcome is expected because most retail sellers choosing to submit Form AQ 31 will likely be reporting low- or non-emitting MWh, which will then be removed from the calculation of the final EFs to be used by retail sellers in determining GHG emissions associated with MWh consumed in Massachusetts that are not reported on Form AQ 31.

### **6. How do I decide whether I want to submit this optional form? Will submitting optional Form AQ 31 enable me to report lower GHG emissions on mandatory Form AQ 32?**

Some retail sellers may wish to submit this form to account for all electricity for which they have a contract specifying supply from particular generating units. Other retail sellers may wish to report only those MWh which are non-emitting, as less information and documentation needs to be submitted for non-emitting generation than for emitting generation. Other retail sellers may choose not to submit Form AQ 31 at all, and simply calculate GHG emissions in Form AQ 32 using the final EFs published by MassDEP.

In general, if you use Form AQ 31 to report low- or non-emitting MWh, then the total GHG emissions that you report on Form AQ 32 will be lower than they would have been if you did not submit Form AQ 31. In fact, MassDEP expects that this difference will be the primary reason that retail sellers choose to submit Form AQ 31. However, because submitted AQ 31 forms are used to adjust the EFs, the full impact of a Form AQ 31 submittal on the final EFs is difficult to predict, and, therefore, it is difficult to predict the impact on any individual retail seller's GHG emissions reported on Form AQ 32.

### **7. What categories of ownership and/or use of particular generation sources can retail sellers subject to DOER's RPS provide in this optional submittal?**

Generally, ownership and/or use is demonstrated by retail sellers subject to the Massachusetts Department of Energy Resources (DOER) Renewable Portfolio Standard (RPS) by retiring RPS-eligible certificates from the retail seller's account in the regional certificate tracking system<sup>1</sup>. Additionally, for non-RPS-eligible MWh, such retail sellers must provide a contract showing purchase of electricity from the particular generation source.

More specifically, retail sellers subject to DOER's RPS may submit the following types of generation on Form AQ 31:

1. MWh used to comply with RPS;
2. MWh that are eligible for RPS but that were in excess of the amounts needed for compliance; the renewable energy certificates used to track ownership of the attributes of the MWh must also be retired from the retail seller's account in the regional certificate tracking system;
3. MWh that were not eligible to be used for compliance with RPS, provided that (1) the certificates used to track ownership of the attributes of the MWh have been retired from the retail seller's account in the regional certificate tracking system, and (2) the retail seller provides a contract showing that they bought the power from the particular power plant that generated it, if the retail seller does not own the plant; and/or
4. emitting MWh whose emissions are documented in Form AQ 31.

### **8. What categories of ownership and/or use of particular generation sources can municipal retail sellers provide in this optional submittal?**

Generally, ownership and/or use is demonstrated by municipal retail sellers by providing:

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<sup>1</sup> The regional certificate tracking system is called the New England Power Pool Generation Information System (GIS). The Operating Rules governing the tracking system can be found at <http://www.nepoolgis.com/documents/>



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1. a report from the owner's account in the regional certificate tracking system showing that the associated certificates were not used by others,
2. a contract showing purchase of electricity from the particular generation source for MWh generated by a source not owned by the retail seller, and
3. MWh that are eligible for RPS.

More specifically, municipal retail sellers reporting under categories 1 and 2 above must submit documentation with the Form AQ 31 for certain MWh to show that:

1. the certificates used to track ownership of the attributes of the MWh in the regional certificate tracking system have not been used by another party<sup>2</sup>;
2. the municipal retail seller has contracted to purchase the power from the particular power plant that generated it,<sup>3,4</sup> if the retail seller does not own the plant; and
3. the emissions from emitting MWh have been documented in Form AQ 31.

Municipal retail sellers reporting MWh that are eligible for RPS (category 3 above) must submit a "My Certificates Disposition" report from NEPOOL-GIS for all four calendar quarters with the Form AQ 31.

#### 9. If I am a competitive supplier, where do I find my Massachusetts Department of Public Utilities (MassDPU) license number to enter in Part A of Form AQ 31?

The Massachusetts Department of Public Utilities (MassDPU) license number can be found at:  
<http://web1.env.state.ma.us/DPU/Fileroom/Licenses>.

#### 10. Can I submit the Simplified AQ31 Form or do I need to complete the full Form AQ 31?

If you choose to submit MWh from only non-emitting generation, you may submit the Simplified AQ 31 Form. If you choose to submit MWh from emitting generation, you will need to complete the full Form AQ 31 including Part B for any non-emitting MWh, and Parts C and/or D for any emitting MWh, as appropriate. Different information is needed for emitting and non-emitting MWh.

#### 11. If I am a municipal retail seller and I am submitting the optional AQ Form 31, must I submit the Annual Return I sent to MassDPU? Which sections of my Annual Return to MassDPU must I submit, and in what format do I submit them?

A municipal retail seller must submit certain pages of its Annual Return unless the Return has been posted on the MassDPU webpage at <https://www.mass.gov/service-details/find-an-mlp-annual-return>.

A municipal retail seller that includes MWh for which it has contracted power must submit the "Purchased Power" pages 54 and 55 of their Annual Return. A municipal retail seller that includes MWh from generating stations which it owns must submit the "Generating Station Statistics (Large Stations)" pages 58 and 59

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<sup>2</sup> While municipal electric departments and light boards document MWh generated by large and small stations they own on pages 58-59 line 12 and page 66 column (e), respectively, of the "annual return" they provide to the Massachusetts Department of Public Utilities (MassDPU), the values listed on the "annual return" can include MWh for which the municipality has sold the certificates representing the "clean" attribute of the power. Therefore, the Department cannot rely solely on the annual return to document such MWh.

<sup>3</sup> While municipal electric departments and light boards document purchases of electricity on page 55 column (k) of the "annual return" they provide to the DPU, it is not obvious in all cases whether this electricity is from emitting or non-emitting electricity generators. Therefore, the Department cannot rely solely on the annual return to document such MWh.

<sup>4</sup> While municipal electric departments and light boards document MWh generated by contracted power on the "annual return" they provide to the Massachusetts Department of Public Utilities (MassDPU), the values listed on the "annual return" can include MWh for which the owner or the municipality has sold the certificates representing the "clean" attribute of the power. Therefore, the Department cannot rely solely on the contract and the annual return to document such MWh.



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and/or the “Generating Station Statistics (Small Stations)” page 66, of their Annual Return, as appropriate. All municipal retail sellers choosing to submit the AQ31 form must submit the “Electric Energy Account” on page 57 of the Annual Return as part of the AQ31 submittal. (It will not be necessary to resubmit this documentation with Form AQ 32.)

The Annual Return pages should be submitted in electronic format, either as a spreadsheet or converted to a legible .pdf file. Please ensure that the Annual Return pages you send are the same as the latest version sent to DPU.

### 12. Where do I get NEPOOL GIS reports required in Parts B and D of Form AQ 31, and in what format do I submit them?

Each retail seller can get their “My Certificates Disposition” reports, showing settled or reserved certificates for the four calendar quarters of the year, from their account in the New England Power Pool Generation Information System (NEPOOL GIS) at <http://www.nepoolgis.com/>. Each owner of a generating unit connected to the New England electricity grid can get an Annual “Generator Certificate Disposition” report from their account in the NEPOOL GIS. Retail sellers submitting the Form AQ31 may need to obtain these reports from the owner of the generating unit, as detailed in Questions 7 and 8 above.

These reports should be submitted in electronic spreadsheet format (which can be downloaded from NEPOOL GIS).

### 13. What “Fuel Code” do I use to complete Parts B and C of Form AQ 31?

Fuel codes to use are the same as used by units reporting to the United States Department of Energy’s Energy Information Administration (EIA) on the “Power Plant Operations” Form 923, as follows:

Fuel Code	Description
BIT	Anthracite Coal and Bituminous Coal
LIG	Lignite Coal
SUB	Sub-bituminous Coal
WC	Waste/Other Coal (includes anthracite culm, bituminous gob, fine coal, lignite waste, waste coal)
DFO	Distillate Fuel Oil (Diesel, No. 1, No. 2, and No. 4 Fuel Oils)
JF	Jet Fuel
KER	Kerosene
PC	Petroleum Coke
RFO	Residual Fuel Oil (No. 5, No. 6 Fuel Oils, and Bunker C Fuel Oil)
WO	Waste/Other Oil (including Crude Oil, Liquid Butane, Liquid Propane, Oil Waste, Re-Refined Motor Oil, Sludge Oil, Tar Oil, or other petroleum-based liquid wastes)
BFG	Blast Furnace Gas
NG	Natural Gas

Fuel Code	Description
OG	Other Gas (specify)
PG	Gaseous Propane
SG	Synthetic Gas
SGC	Coal-Derived Synthetic Gas
NUC	Nuclear Fission (Uranium, Plutonium, Thorium)
MSB	Municipal Solid Waste – Biogenic component
OBS	Other Biomass Solids (specify)
TDF	Tire-derived Fuels
WDS	Wood/Wood Waste Solids (paper pellets, railroad ties, utility poles, wood chips, bark, and other wood waste solids)
OBL	Other Biomass Liquids (specify)
BLQ	Black Liquor
SLW	Sludge Waste
WDL	Wood Waste Liquids excluding Black Liquor (BLQ) (Includes red liquor, sludge wood, spent sulfite liquor, and other wood-based liquids)
LFG	Landfill Gas



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Fuel Code	Description
OBG	Other Biomass Gas(includes digester gas, methane, and other biomass gases) (specify)
GEO	Geothermal
WAT	Water at a Conventional Hydroelectric Turbine
SUN	Solar

Fuel Code	Description
WND	Wind
WAT-HPS	Hydroelectric Pumped Storage or Compressed Air Units
OTH	Other (specify)
MSN	Municipal Solid Waste – Non-biogenic components

### 14. What documentation do I need to submit to show the calculation of GHGs from emitting MWh in Parts C and D of Form AQ 31?

This documentation should show how you determined the emissions you entered on Form AQ 31 Part C. For example, the documentation may include quantity of fuel combusted, fuel heat content, carbon content of fuel, carbon emission rate, etc. The documentation should indicate the source of each piece of information used to determine emissions (e.g., fuel sampling, stack test(s), emission factor(s) published by EPA in a specified document, etc.). Documentation must be submitted in electronic spreadsheet form, so that calculations are transparent. If possible, emissions should be quantified in accordance with The Climate Registry's General Reporting Protocol. The General Reporting Protocol is available for download at <https://www.mass.gov/guides/massdep-greenhouse-gas-emissions-reporting-program#retail-seller-of-electricity-reporting>.

Emissions must be broken out by fuel (see question 13 for list of fuel types). In particular:

- N<sub>2</sub>O and CH<sub>4</sub> emissions must be reported for all fuels. These emissions are not considered biogenic, even if they result from the combustion of biomass.
- Non-biogenic CO<sub>2</sub> emissions must be reported for fossil fuels, including the non-biogenic component of emissions that result from combustion of municipal waste.
- Biogenic CO<sub>2</sub> emissions must be reported for biomass, liquid biofuels, landfill and digester gas, black liquor, the biogenic component of municipal waste, and any other biomass-derived fuel.

If completing Parts C and D, please use the following table for further guidance on the type of documentation to submit.

		Retail seller using all MWh from stationary emission source, and source not Combined Heat and Power?	
		Yes	No
Stationary emission source reporting CO <sub>2</sub> in accordance with 40 CFR Part 75?	Yes	<b>Category I:</b> Use CO <sub>2</sub> emissions reported in accordance with 40 CFR Part 75 and provide documentation of calculation of CH <sub>4</sub> and N <sub>2</sub> O emissions	<b>Category III:</b> Provide documentation of calculation of a portion of CO <sub>2</sub> emissions reported in accordance with 40 CFR Part 75 and provide documentation of calculation of CH <sub>4</sub> and N <sub>2</sub> O emissions
	No	<b>Category II:</b> Provide documentation of calculation of CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O emissions	<b>Category IV:</b> Provide documentation of calculation of CO <sub>2</sub> , CH <sub>4</sub> and N <sub>2</sub> O emissions

If you are reporting emissions from a Part 75 unit that co-fires biomass, please contact Sue Ann Richardson at 617-348-4098 to discuss your documentation, before submitting Form AQ 31.

### 15. In what format and to whom do I send my AQ 31 or Simplified AQ 31 Optional Reporting Form for Retail Sellers of Electricity?





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Submit electronic copies of signed Form AQ 31, or Simplified Form AQ 31, and any supporting materials in Word or Adobe format (for non-spreadsheets) and spreadsheet format (to show calculations) to MassDEP by email to: [sue.ann.richardson@state.ma.us](mailto:sue.ann.richardson@state.ma.us).

You are not required to submit a hardcopy of Form AQ 31, or Simplified Form AQ 31, or supporting documents, but if you choose to do so, submit one hardcopy of all materials to: Massachusetts Department of Environmental Protection, Bureau of Waste Prevention, 1 Winter Street, Boston, MA 02108, Attn: Sue Ann Richardson.

## **16. What are the reporting fees and timelines?**

As of April 1, 2018, reporting under AQ 31 or Simplified AQ 31 Optional Reporting Form for Retail Sellers of Electricity, is not subject to 310 CMR 4.00 and therefore is not subject to fees and review timelines established under that regulation.

## **17. What is the annual compliance fee?**

As of April 1, 2018 there is no annual compliance fee specifically for this program.

## **18. What are the regulations that apply to these submittals? Where can I get copies?**

The applicable regulations include, but are not limited to:

Massachusetts Air Quality Regulations, 310 CMR 7.00. The specific requirement for retail electricity sellers to report greenhouse gas emissions is at 310 CMR 7.71(9).

The state regulations may be purchased at:

State Bookstore (in State House)  
Room 116  
Boston, MA 02133  
617-727-2834

State House West Bookstore  
436 Dwight Street, Room 102  
Springfield, MA 01103  
413-784-1376

An unofficial copy of these regulations may also be obtained at <https://www.mass.gov/regulations/310-CMR-700-air-pollution-control>.



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- ☐ All applicable questions on Form AQ 31 or Simplified Form AQ 31 have been answered.
- ☐ The retail seller's responsible official has signed the Certification Statement (Part E of the Form AQ 31 or Part C of the Simplified AQ 31).
- ☐ For municipal retail sellers whose Annual Return to MassDPU has not been posted on the MassDPU webpage: A copy of the "Purchased Power" pages (54 & 55), "Generating Station Statistics (Large Stations)" pages (58 & 59) and/or the "Generating Station Statistics (Small Stations)" page 66, and the "Electric Energy Account" page 57 of the Annual Return to DPU has been included with the submittal, as appropriate.
- ☐ All applicable attachments required in Parts B, C and D have been included in the submittal.
- ☐ If submitting a hardcopy, one original (to submit) and one copy (for your records) have been made of all of the required hardcopy materials.
- ☐ Electronic copies have been made of Form AQ 31, or Simplified AQ 31, and any supporting materials in Word or Adobe format (for non-spreadsheets) and spreadsheet format (to show calculations).

To submit Form AQ 31 or Simplified AQ 31:

- ☐ Submit electronic copies of signed Form AQ 31, or Simplified AQ 31, and any supporting materials in Word or Adobe format (for non-spreadsheets) and spreadsheet format (to show calculations) to MassDEP by email to: [sue.ann.richardson@state.ma.us](mailto:sue.ann.richardson@state.ma.us).
- ☐ You are not required to submit a hardcopy of Form AQ 31, Simplified AQ 31, or supporting documents, but if you choose to do so, submit one hardcopy of all materials to:

Department of Environmental Protection  
Bureau of Air & Waste  
1 Winter Street, 6<sup>th</sup> floor  
Boston, MA 02108  
Attn: Sue Ann Richardson